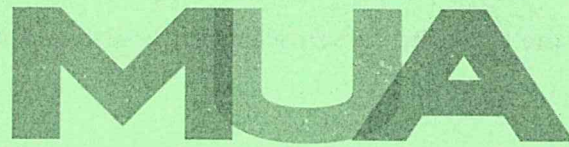


The
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UNDERGRADUATE UNIVERSITY EXAMINATIONS

SCHOOL OF MANAGEMENT AND LEADERSHIP

DEGREE OF BACHELOR OF ARTS IN DEVELOPMENT STUDIES

BDS 323 : ENVIRONMENTAL MANAGEMENT

DATE: 9TH DECEMBER 2016

DURATION: 2 HOURS

MAXIMUM MARKS: 70

INSTRUCTIONS:

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **SIX (6)** questions.
4. Question **ONE** is compulsory.
5. Answer any other **THREE** questions.
6. Question **ONE** carries **25 MARKS** and the rest carry **15 MARKS** each.
7. Write all your answers in the Examination answer booklet provided.

QUESTION ONE

Read the Case Study below carefully and answer the questions that follow:

DROUGHTS

A drought is an extended period of depleted soil water. Drought occurs when more water is taken out of an area than is added to it. This is often the result of a combination of persisting high pressure over a region, which produces clear skies with little or no precipitation, and excessive use of water for human activities. Droughts can result in decreased crop yields, decreased drinking water quality and availability and food shortages. Thus, as population increases and the demand for food and water increases the probability of drought increases and the implications of drought become more and more serious. Also, when vegetation becomes dry during a drought, fire risk increases, threatening homes, crops, and lives. The greatest threat from drought occurs when agricultural regions receive very low rainfall, leading to plant desiccation. When this happens, crop yields decrease resulting in increased food prices, food shortages, and even famine. Most agricultural crops are grown in the semi-arid and humid regions of the world. Water shortages in either of these regions can pose an immediate threat to agricultural productivity. With global climate change, droughts are expected to become a major problem for several agricultural regions. In semi-arid and arid regions, droughts commonly result in deteriorating drinking water quality and availability.

Besides the immediate impacts associated with water shortages and poor water quality, delayed impacts (such as susceptibility to disease) are major problems in several less-developed regions of the world.

El Nino and La Nina

El Nino and La Nina are triggers for many natural hazards because they produce unusual weather throughout the world. The Earth's oceans and atmosphere are closely connected and hence a change in one produces an immediate or delayed change in the other. El Nino involves the warming of sea surface temperatures in the equatorial Pacific Ocean. This temperature change at the ocean's surface causes the usual positions of the jet streams and pressure cells to shift.

This causes changes in the global weather patterns produces floods, droughts and other hazards, leading to thousands of deaths and property damages. A La Nina event usually occurs the year after the end of an El Nino event and involves abnormal cooling of the same ocean waters.

This can also cause changes in atmospheric circulation, thereby altering weather patterns for many locations around the world.

Because El Nino and La Nina produce considerable changes in atmospheric circulation, the effects are noticeable globally. However, certain locations feel the effects of El Nino and La Nina more than others due to a variety of factors. El Nino events usually begin between January and March and peak during the month of December. Not every El Nino event is followed by a La Nina event. When it happens, the effects of La Nina are usually most noticeable between the months of December and January.

Required:

- a) Environment management requires knowledge of droughts, El Nino and La Nina support each with three(3) points (9 marks)
- b) Environment management can minimize droughts, discuss five(5) ways how (10 marks)
- c) Explain any six(6) consequences of El Nino cause environmental health hazard (6 marks)

QUESTION TWO

Increasing human population coupled with unprecedented technological growth has led to severe environmental stress. This has led to several problems on a global scale. The biotic as well as abiotic components of the environment has come to be seriously affected by the large scale human activities like agriculture, industrial production, energy production and consumption, transport, lumbering, harmful emissions, disposal of toxic chemicals etc. Discuss any five (5) well documented anthropogenic environmental impacts (15 marks)

QUESTION THREE

- a) Explain five(5) Causes of Ozone Depletion (5 marks)
- b) Discuss five(5) Impacts of Air Pollution in the environment (10 marks)

QUESTION FOUR

Water is essential for survival of all forms of life and it is also an important requirement in most of the industrial activities. Deterioration of water quality is a major environmental issue especially in developing countries. Increase in industrial activity and human population has adverse impact on the quality of not only surface water but also on ground water.

- a) Give seven(7) pollutants encountered in water (7 marks)
- b) Land pollution is an area requiring urgent attention. Land pollution is also closely related to ground water contamination. Discuss four(4) Remedial Measures for land pollution (8 marks)

QUESTION FIVE

- a) Discuss five (5) appropriate waste management strategies (10 marks)
- b) Describe five (5) Causes and Consequences of environment change (5 marks)

QUESTION SIX

- a) Explain five (5) Challenges facing Implementation of sustainable development (5 marks)
- b) Describe each of the following as specified in Kenya Environmental laws
 - i) Environmental Impact Assessment (EIA) (5 marks)
 - ii) Management Authority (NEMA) (5 marks)